CLAIMS

We claim:

1. A method of delivering dissimilar program content to a plurality of subscribers comprising the steps of:

5   segmenting the subscriber population into a plurality of facilities;

receiving broadcast entertainment content locally at each of the plurality of facilities;

receiving commercial content locally at each of the plurality of facilities;

receiving;

disseminating the broadcast entertainment to a plurality of subscribers in each of said

10   plurality of facilities; and

disseminating the commercial content to a plurality of subscribers in each of said plurality of facilities.

2. The method of Claim 1 further comprising the steps of:

receiving entertainment content locally at each of the plurality of facilities; and

15   disseminating the entertainment content to a plurality of subscribers in each of said plurality of facilities.

3. The method of Claim 1 wherein the commercial content is received from a distribution facility by means of computer readable media.

4. The method of Claim 2 wherein the entertainment content is received from a distribution

20   facility by means of computer readable media.

5. The method of Claim 3 wherein the computer readable media is a computer network.

6. The method of Claim 4 wherein the computer readable media is a computer network.

7. The method of Claim 3 wherein the distribution center combines all commercial content intended for each of the plurality of facilities on one computer readable media.

25   8. The method of Claim 4 wherein the distribution center combines all entertainment content intended for each of the plurality of facilities on one computer readable media.

9. The method of Claim 7 wherein the computer readable media comprises an electronic mail message.

10. The method of Claim 8 wherein the computer readable media comprises an electronic mail message.

11. The method of Claim 1 further comprising the step of receiving a plurality of commercial content descriptors.

12. The method of Claim 2 further comprising the step of receiving a plurality of entertainment content descriptors.

13. The method of Claim 11 wherein the commercial content descriptors comprise a start date and an end date and the commercial content associated with a descriptor is disseminated to the plurality of subscribers substantially within the window of time defined by said start date and said end date.

14. The method of Claim 11 wherein the commercial content descriptors comprise a start time and an end time and the commercial content associated with a descriptor is disseminated to the plurality of subscribers substantially within the window of time defined by said start time and said end time.

15. The method of Claim 11 wherein the commercial content descriptors comprise a presentation strategy indicator and the commercial content associated with a descriptor is disseminated to all subscribers in the facility or to only those subscribers whose demographic codes are commensurate with the demographic codes in said presentation strategy.

16. The method of Claim 11 wherein the commercial content descriptors comprise an enumeration of presentation times and the commercial content associated with the descriptor will be disseminated to a plurality of subscribers substantially at the times enumerated.

17. The method of Claim 12 wherein the entertainment content descriptors comprise a start date and an end date.

18. The method of Claim 12 wherein the entertainment content descriptors comprise a spot allowance indicator and an enumeration of spot insertion points.

19. A method of delivering dissimilar program content to a plurality of subscribers comprising the steps of:

    establishing a logical conduit for each of a plurality of subscribers;

    receiving program requests from each of a plurality of subscribers;

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selecting entertainment content for each of said plurality of subscribers;

assembling said entertainment content into a plurality of content streams; and

directing said content streams into said logical conduits corresponding to each of a plurality of subscribers.

5   20. The method of Claim 19 further comprising the steps of:

assigning broadcast advertising spots to each of the plurality of subscribers; and

injecting the broadcast advertising spots into each of the plurality of content streams where the entertainment content is received from a broadcast source.

21. The method of Claim 19 further comprising the steps of:

10   assigning directed advertising spots to each of a plurality of subscribers according to a plurality of demographic codes corresponding to both the directed advertising spots and each of the plurality of subscribers; and

injecting the directed advertising spots into each of the plurality of content streams where the entertainment content is received from a broadcast source.

15   22. The method of Claim 19 further comprising the steps of:

assigning directed advertising spots to each of a plurality of subscribers according to a plurality of demographic codes corresponding to both the directed advertising spots and each of the plurality of subscribers; and

injecting the directed advertising spots into each of the plurality of content streams where

20   the entertainment content is received from a on-demand cache.

23. The method of Claim 21 wherein the demographic codes for said plurality of subscribers is received by means of computer readable media.

24. The method of Claim 23 wherein the computer readable media is an electronic mail message.

25. The method of Claim 22 wherein the demographic codes for said plurality of subscribers is

25   received by means of computer readable media.

26. The method of Claim 25 wherein the computer readable media is an electronic mail message.

27. A method for delivering advertising content to a plurality of subscribers comprising the steps of:

creating a delivery script for each of a plurality of subscribers;

identifying all advertisements that:

require broadcast distribution;

have not yet expired; and

5   must be presented at predetermined times; and

assigning the identified advertisements to each of the delivery scripts for each of the

plurality of subscribers.

28. The method of Claim 27 further comprising the steps of:

identifying all advertisements that:

10   require broadcast distribution;

have not yet expired; and

must be presented within a prescribed time slot; and

assigning the identified advertisements to each of the delivery scripts for each of the

plurality of subscribers.

15   29. A method for delivering advertising content to a plurality of subscribers comprising the steps

of:

creating a delivery script for each of a plurality of subscribers;

identifying all advertisements that:

require targeted distribution; and

20   have not yet expired; and

assigning the identified advertisements to each of the delivery scripts for each of the

plurality of subscribers where a demographic code for the advertisements corresponds to

a demographic code for each of the plurality of subscribers.

30. A method for disseminating program content to a plurality of subscribers comprising the steps

25   of:

receiving advertising content into a cache;

receiving entertainment content from a broadcast source;

identifying insertion opportunities for advertising content in the entertainment content;

directing the entertainment content to a subscriber;

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interrupting the entertainment content during identified insertion opportunities;

retrieving an advertisement from the content cache;

directing the advertisement to a subscriber in accordance with a delivery script so long as an advertising insertion opportunity persists; and

5   resuming the direction of entertainment content to the subscriber once the advertising insertion opportunity desists.

31. The method of Claim 30 wherein the identification of insertion opportunities is accomplished by monitoring the broadcast source for special signals or data codes.

32. The method of Claim 30 wherein the identification of insertion opportunities is accomplished

10   by declaring an insertion opportunity at predetermined intervals at predetermined times.

33. A method for disseminating program content to a plurality of subscribers comprising the steps of:

receiving advertising content into a cache;

receiving entertainment content into a cache;

15   identifying insertion opportunities for advertising content in the entertainment content;

retrieving the entertainment content from the cache and directing it to a subscriber;

interrupting the entertainment content during identified insertion opportunities;

retrieving an advertisement from the content cache;

directing the advertisement to a subscriber in accordance with a delivery script so long as

20   an advertising insertion opportunity persists; and

resuming the direction of entertainment content to the subscriber once the advertising insertion opportunity desists.

34. The method of Claim 33 wherein the identification of insertion opportunities is accomplished by declaring an insertion opportunity at predetermined intervals at predetermined times.

25   35. A method for creating a plurality of virtual conduits from a source to a plurality of subscribers comprising the steps of:

allocating a portion of the bandwidth of a medium;

segregating the allocated bandwidth into a plurality of channels;

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creating a plurality of time multiplexed data carriers each carrying a plurality of data streams; and

directing each of said time multiplexed data carriers through one of said plurality of channels.

5 36. The method of Claim 35 further comprising the steps of:

assigning a channel and a stream to each of said subscribers; and

directing each of said plurality of subscribers to select a channel and stream according to said assignment.

37. The method of Claim 35 wherein the time multiplexed data carrier is a modulated signal

10 having amplitude varying according to the data.

38. The method of Claim 35 wherein the time multiplexed data carrier is a modulated signal having phase varying according to the data.

39. The method of Claim 35 wherein the time multiplexed data carrier is a modulated signal having amplitude and phase varying according to the data.

15 40. A method for creating a time multiplexed data carrier comprising the steps of:

receiving sequential frames of digitized content from a plurality of broadcast sources;

directing every other sequential frame from each broadcast source to one of two alternating buffers where there is a set of alternating buffers for each broadcast source;

retrieving a plurality of frames from one of the alternating buffers for each of a plurality of

20 broadcast sources in a successive manner where the frames are received from the buffers opposing the buffer then receiving a sequential frame from a broadcast source; and

concatenating the successively retrieved plurality of frames to form a plurality of time multiplexed data streams.

41. The method of Claim 40 wherein the plurality of frames retrieved from alternating buffers are

25 selected in accordance with a program request received from a subscriber.

42. A method for injecting commercial content into a data stream included in a time multiplexed data carrier comprising the steps of:

receiving commercial content into a cache where the commercial content is stored as a plurality of frame sequences;

receiving sequential frames of digitized content from a plurality of broadcast sources;

directing every other sequential frame from each broadcast source to one of two alternating buffers where there is a set of alternating buffers for each broadcast

5   source;

identifying insertion opportunities for the commercial content;

retrieving a plurality of broadcast frames from one of the alternating buffers for each of a plurality of broadcast sources in a successive manner where the frames are received from the buffers opposing the buffers then receiving a sequential

10   frame from a broadcast source so long as there is not an opportunity to insert commercial content;

retrieving from a cache a sequence of frames representing commercial content so long as there is an opportunity to insert commercial content;

concatenating the successively retrieved plurality of broadcast frames and

15.   sequence of commercial content frames to form a plurality of time multiplexed data streams.

41. The method of Claim 42 wherein the plurality of frames retrieved from alternating buffers are selected in accordance with a program request received from a subscriber.

42. The method of Claim 42 wherein the frame sequence representing commercial content

20   retrieved from the cache is selected in accordance with a delivery script.

43. The method of Claim 42 wherein the commercial content is received from computer readable media.

44. The method of Claim 42 wherein the amount of commercial content received is that required for an upcoming period of time.

25   45. The method of Claim 42 wherein the cache comprises random access memory.

46. An apparatus for delivering dissimilar program content to a plurality of subscribers comprising:

plurality of facilities each of which comprises:

broadcast entertainment receiver;

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commercial content receiver;

targeted delivery server that:

receives broadcast entertainment from said broadcast entertainment receiver;

5   receives commercial content from said commercial content receiver;

delivers broadcast entertainment to a distribution system; and

delivers commercial content to a distribution system; and

distribution system that carries broadcast content.

47. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim

10   46 further comprising an entertainment content receiver and wherein the targeted deliver server further comprises the functions of: receiving entertainment content from the entertainment content receiver and delivers the entertainment content to a distribution system.

48. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 46 wherein the broadcast entertainment receiver is a satellite receiver.

15 49. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 46 wherein the broadcast entertainment receiver is an RF cable receiver.

50. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 46 further comprising a distribution center.

51. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim

20   47 further comprising a distribution center.

52. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 46 wherein the commercial content receiver further comprises a means to read computer readable media.

53. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim

25   47 wherein the entertainment content receiver further comprises a means to read computer readable media.

54. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 52 wherein the means to read computer readable media comprises a computer network interface.

55. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 53 wherein the means to read computer readable media comprises a computer network interface.

56. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 50 wherein the distribution center combines all commercial content intended for each of the plurality of facilities onto a single computer readable media for each of the facilities.

57. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 51 wherein the distribution center combines all entertainment content intended for each of the plurality of facilities onto a single computer readable media for each of the facilities.

58. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 50 wherein the distribution center sends commercial content intended for each of the plurality as an electronic mail message.

59. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 51 wherein the distribution center sends entertainment content intended for each of the plurality as an electronic mail message.

60. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 46 wherein the commercial content receiver further comprises an element to receive a plurality of commercial content descriptors.

61. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 47 wherein the entertainment content receiver further comprises an element to receive a plurality of entertainment content descriptors.

62. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 60 wherein the commercial content descriptors comprise a start date and an end date and the commercial content associated with a descriptor is disseminated to the plurality of subscribers substantially within the window of time defined by said start date and said end date.

63. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 60 wherein the commercial content descriptors comprise a start time and an end time and the commercial content associated with a descriptor is disseminated to the plurality of

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subscribers substantially within the window of time defined by said start time and said end time.

64. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 60 wherein the commercial content descriptors comprise a presentation strategy indicator and the commercial content associated with a descriptor is disseminated to all subscribers in the facility or to only those subscribers whose demographic codes are commensurate with the demographic codes in said presentation strategy.

65. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 60 wherein the commercial content descriptors comprise an enumeration of presentation times and the commercial content associated with the descriptor will be disseminated to a plurality of subscribers substantially at the times enumerated.

66. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 61 wherein the entertainment content descriptors comprise a start date and an end date.

67. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 61 wherein the entertainment content descriptors comprise a spot allowance indicator and an enumeration of spot insertion points.

68. An apparatus for delivering dissimilar program content to a plurality of subscribers comprising:

    facility comprising:

        target distribution server that:

            receives programming requests from a plurality of subscribers;

            selects entertainment for each of the plurality of subscribers according to the received requests;

            assembles said entertainment content into a plurality of content streams where there is one content stream for each subscriber; and

            emanates the plurality of content streams; and

    plurality of logical conduits leading from the facility to each of the plurality of subscribers that accepts a content for the corresponding subscriber from the target distribution server.

69. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 68 further comprising an advertisement content manager that assigns broadcast advertising spots to each of a plurality of subscribers delivers insertion lists for each of the plurality of subscribers to the target distribution server and wherein the target distribution server injects the broadcast advertising spots into each of the plurality of contest streams where the entertainment content is received from a broadcast source.

70. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 68 further comprising an advertisement content manager that assigns directed advertising spots to each of a plurality of subscribers according to a plurality of demographic codes corresponding to both the directed advertising spots and each of the plurality of subscribers and delivers insertion lists for each of the plurality of subscribers to the target distribution server and wherein the target distribution server injects the directed advertising spots into each of the plurality of contest streams where the entertainment content is received from a broadcast source.

71. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 68 further comprising an advertisement content manager that assigns directed advertising spots to each of a plurality of subscribers according to a plurality of demographic codes corresponding to both the directed advertising spots and each of the plurality of subscribers and delivers insertion lists for each of the plurality of subscribers to the target distribution server and wherein the target distribution server injects the directed advertising spots into each of the plurality of contest streams where the entertainment content is received from an on-demand cache.

72. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 70 wherein the advertisement content manager receives demographic codes for said plurality of subscribers by means of computer readable media.

73. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 72 wherein the computer readable media is an electronic mail message.

74. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 71 wherein the advertisement content manager receives demographic codes for said plurality of subscribers by means of computer readable media.

75. The apparatus for delivering dissimilar program content to a plurality of subscribers of Claim 74 wherein the computer readable media is an electronic mail message.

76. An advertising content manager comprising:

    database of commercial content descriptors;

    a plurality of delivery scripts that define the time at which advertisements must be presented to a plurality of subscribers;

    identification module that examines the commercial content descriptors in said database and flags those commercial content descriptors that:

        require broadcast distribution;

        have not expired; and

        must be presented at predetermined times; and

    assignment module that:

        retrieves copies of the commercial content descriptors that have been flagged from said database; and

        inserts said copies of the commercial content descriptors into each of said plurality of delivery scripts according at the predetermined time designated in the commercial content descriptor.

77. The advertising content manage of Claim 76 wherein:

    the identification module further flags as secondary those commercial content descriptors that:

        require broadcast distribution;

        have not expired; and

        must be presented within a prescribed time slot; and

    the assignment module further:

        retrieves copies of the commercial content descriptors that have been flagged as secondary from said database; and

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inserts said copies of the secondarily flagged commercial content descriptors into each of said plurality of delivery scripts according to the time slot designated in the commercial content descriptor.

78. An advertising content manager comprising:

5   database of commercial content descriptors;

a plurality of delivery scripts that define the time at which advertisements must be presented to a plurality of subscribers;

identification module that examines the commercial content descriptors in said database and flags those commercial content descriptors that:

10   require targeted distribution; and

have not expired; and

assignment module that:

retrieves copies of the commercial content descriptors that have been flagged from said database; and

15   inserts said copies of the commercial content descriptors into the delivery scripts for each of a plurality of subscribers where a demographic code for the advertisement corresponds to a demographic code for each of the plurality of subscribers.

79. A targeted media server comprising:

20   cache for receiving advertising content;

broadcast entertainment receiver;

insertion indicator that determines when insertion of advertising content is permissible and asserts an insert signal when it is permissible to insert advertising content; and

stream multiplexer that selects one of a plurality of content streams from either the

25   broadcast entertainment receiver or the cache for receiving advertising content and that selects a content stream emanating from the broadcast entertainment receiver when the insert signal is not asserted and selects a content stream from the cache for advertising content when it is asserted.

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80. The targeted media server of Claim 79 further comprising a virtual conduit unit that creates a virtual conduit to a subscriber for carrying the content stream selected by the stream multiplexer.

81. The targeted media server of Claim 79 wherein the insertion indicator monitors the broadcast source for special signals or data codes that indicative of insertion opportunities.

82. The targeted media server of Claim 79 wherein the insertion indicator declares an insertion opportunity at predetermined intervals and/or at predetermined times.

83. A targeted media server comprising:

cache for receiving advertising content;

cache for receiving entertainment content;

insertion indicator that determines when insertion of advertising content is permissible and asserts an insert signal when it is permissible to insert advertising content; and

stream multiplexer that selects one of a plurality of content streams from either the cache for receiving entertainment or the cache for receiving advertising content and that selects a content stream emanating from the cache for entertainment content when the insert signal is not asserted and selects a content stream from the cache for advertising content when it is asserted.

84. The targeted media server of Claim 83 further comprising a virtual conduit unit that creates a virtual conduit to a subscriber for carrying the content stream selected by the stream multiplexer.

85. The targeted media server of Claim 83 wherein the insertion indicator declares an insertion opportunity at predetermined intervals and/or at predetermined times.

86. A virtual conduit unit comprising:

A plurality of multiplexer for receiving a plurality of data streams;

controller that directs the plurality of multiplexers to select one of said plurality of data streams on a continuous and cyclical basis;

a plurality of carrier modulators that are respectively modulated by the output of the plurality of multiplexers and emanate modulated carriers; and

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frequency shifter that accepts a plurality of modulated carriers and shifts each to a distinct frequency.

87. The virtual conduit unit of Claim 86 further comprising a channel assignment unit that assigns said data streams to a plurality of subscribers on a corresponding basis and communicates the assignment to each subscriber.

88. The virtual conduit unit of Claim 86 wherein modulated carriers are a modulated signal having amplitude varying according to the data.

89. The virtual conduit unit of Claim 86 wherein modulated carriers are a modulated signal having phase varying according to the data.

90. The virtual conduit unit of Claim 86 wherein modulated carriers are modulated signal having amplitude and phase varying according to the data.

91. A stream multiplexer comprising:

> plurality of broadcast reception units each comprising:

>> a broadcast source interface that receives a successive of frames of digitized content;

>> an alternating set of buffer that receive alternating frames of digitized content;

>> ping-pong register that enables the alternating buffer not receiving digitized frames to propagate the digitized content stored therein as the output of the broadcast reception unit;

> multiplexer that selects the output of a plurality of broadcast reception unit in a continuos manner.

92. The stream multiplexer of Claim 91 further comprising a program selection unit that receives program request from a plurality of subscribers and directs the multiplexer to select the output of a broadcast reception unit in accordance with the received program request.

93. A stream multiplexer comprising:

> commercial content cache;

> plurality of broadcast reception units each comprising:

>> a broadcast source interface that receives a successive of frames of digitized content;

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an alternating set of buffer that receive alternating frames of digitized content;

ping-pong register that enables the alternating buffer not receiving digitized frames

to propagate the digitized content stored therein as the output of the broadcast

reception unit; and

5   multiplexer that selects the output of a plurality of broadcast reception units and retrieves

data from the commercial content cache in a continuos manner.

94. The stream multiplexer of Claim 93 further comprising a program selection unit that receives

program request from a plurality of subscribers and directs the multiplexer to select the

output of a broadcast reception unit in accordance with the received program request and

10   directs the multiplexer to retrieve commercial content in accordance with a delivery script.

95. The stream multiplexer of Claim 93 wherein the commercial cache is loaded from computer

readable media.

96. The stream multiplexer of Claim 93 wherein the commercial cache is loaded with an amount

of content so as to satisfy an upcoming period of time.

15   97. The stream multiplexer of Claim 93 wherein the commercial cache comprises random access

memory.